

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for thermal processing of material containing free or chemically bound carbon, wherein the material is supplied into the first end of the reactor and gasifying agent containing oxygen is supplied countercurrently with the supply of the material into the second end of the reactor, the zones of oxidizing and reduction are formed in the reactor, and at least a part of carbon of the material is oxidized by the gasifying agent at high temperature to form solid residue and gaseous reaction products in the oxidizing zone of the reactor and carbon dioxide formed as a result of the oxidation is at least partially reduced at high temperature in the reduction zone of the reactor, formed product gas containing gaseous and possibly liquid reaction products is withdrawn from the first end of the reactor and the solid residue is discharged from the second end of the reactor, ~~characterized in that~~ wherein the material is shaped before its supply into the reactor and the material is moved through the reactor from the first end of the reactor to the second end of the reactor during the processing, at least one flow-through channel is provided in the reactor, and the gasifying agent is supplied into the reactor and the product gas is withdrawn from the reactor by the channel which is arranged in a parallel direction with the movement of the material so that the gasifying agent flows from the second end of the reactor into the material, between the parts of the material and/or between the material and an internal wall of the reactor and that the product gas formed as a result of the processing is withdrawn out from the first end of the

reactor, and the channel is provided to ensure contact of the gasifying agent and/or the product gas with the material, and a minimum transverse size of the channel is not more than 1/100 from total length of the channel.

2. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the minimum transverse size of the channel is not less than 5 mm.

3. (currently amended) A method according to claim 1 ~~or 2, characterized in that~~ wherein the ratio between the summary cross-sectional area of the channel and the summary cross-sectional area of the material is within the limits from 0,05 to 3,0.

4. (currently amended) A method according to ~~anyone of claims 1-3, characterized in that~~ claim 1, wherein a pair of channels having elongated cross section are formed and arranged essentially parallel to each other, and the gasifying agent is supplied into the first channel of these adjacent channels which is in contact with a portion of the material located between these channels, and the gasifying agent which flows in the second channel of the pair is not in contact with said same portion of the material.

5. (currently amended) A method according to ~~anyone of claims 1-4, characterized in that~~ claim 1, wherein at least one channel is formed between the material and the internal wall of the reactor, and the material is loaded on the pallet.

6. (currently amended) A method according to ~~anyone of claims 1-4, characterized in that~~ claim 1, wherein one or several channels are formed between the portions of the material, and the portions of the material are loaded on the pallets which are located

above with each other so that at least one channel is formed between each pallet and the material loaded on the adjacent underlying pallet.

7. (currently amended) A method according to claim 5 ~~or 6, characterized in that~~ wherein the gas-impermeable pallets are used.

8. (currently amended) A method according to claim 5 ~~or 6, characterized in that~~ wherein the gas-permeable pallets are used to guarantee the contact of the gasifying agent with the material.

9. (currently amended) A method according to ~~anyone of claims 1-4, characterized in that~~ claim 1, wherein said channel is formed by facing its walls of at least one solid article into which the material and/or the blocks of the material are entered.

10. (currently amended) A method according to ~~anyone of claims 1-4, characterized in that~~ claim 1, wherein said channel is formed by the article with at least one flow-through channel.

11. (currently amended) A method according to claim 10, ~~characterized in that~~ wherein said material is loaded into the article which has at least one flow-through channel.

12. (currently amended) A method according to ~~anyone of claims 1-11, characterized in that~~ claim 1, wherein at least portion of the product gas is withdrawn from reduction zone of the reactor in one or several places of this zone and at least portion of fractions of the liquid products are separated from the product gas.

13. (currently amended) A method according to ~~anyone of claims 1–12,~~
~~characterized in that~~ claim 1, wherein steam and/or carbon dioxide are supplied into the
second end of the reactor.

14. (currently amended) Apparatus for thermal processing of material containing
free or chemically bound carbon, said apparatus comprising a reactor (3), means for
supplying the material (1) into the first end of the reactor and, means for supplying a
gasifying agent (2) countercurrently with the supply of the material into the second end of
the reactor, means for discharging the solid residue (5) formed during the processing
from the reactor and means for withdrawal of the product gas (4) containing gaseous and
probably liquid products formed during the processing from the reactor, ~~characterized in~~
~~that~~ wherein said reactor (3) is a tunnel furnace and the apparatus comprises means (7)
for moving the material (1) through the reactor during the processing and at least one
flow-through channel (6) for providing the flow of the gasifying agent (2) into the reactor
and the flow of the product gas (4) from the reactor and ensuring the contact of the
gasifying agent (2) and/or the product gas (4) with the material (1) so that the gasifying
agent (2) flows from the second end of the reactor into the material, between the parts of
the material and/or between the material and an internal wall of the reactor and that the
product gas (4) formed as a result of the processing is withdrawn out from the first end of
the reactor, and channel (6) has been arranged in a parallel direction with the movement
of the material provided by the means (7) for moving the material, and minimum
transverse size of the channel is not more than 1/100 from the length of the channel.

15. (currently amended) Apparatus according to claim 14, ~~characterized in that~~
wherein the means of supply and movement of the material comprise at least one
platform for executing the movement of the material over the tunnel furnace and at least
one pallet (7) for placing the material (1) on the pallet, and the pallet has been installed
on the platform.

16. (currently amended) Apparatus according to claim 15, ~~characterized in that~~
wherein the pallets (7) have been provided in the reactor so that at least one channel (6)
has formed between the material placed on the pallet (7) and wall of the reactor or
between each pallet (7) and the material (1) placed on the adjacent underlying pallet.

17. (currently amended) Apparatus according to ~~anyone of claims 15–16,~~
~~characterized in that~~ claim 15, wherein the tunnel furnace comprises rails for moving the
material and the platforms which have wheels for moving along said rails.

18. (currently amended) Apparatus according to ~~anyone of claims 15–17,~~
~~characterized in that~~ claim 15, wherein the pallets (7) are gas-impermeable.

19. (currently amended) Apparatus according to ~~anyone of claims 15–17,~~
~~characterized in that~~ claim 15, wherein the pallets (7) are gas-permeable.

20. Apparatus according to ~~anyone of claims 14–19, characterized in that~~ claim 14,
wherein the tunnel furnace comprises the additional means for withdrawal at least portion
of the product gas from the tunnel furnace in one or several places.

21. (currently amended) Apparatus according to claim 20, ~~characterized in that~~
wherein said additional means comprise means for separation of liquid products from the
product gas.